485 North Aviation Way ♦ Cedar City, UT 84721 Phone (435) 867-6478 + Fax (435) 867-4372 www.gemengineeringinc.com

January 21, 2016

Alton Coal Development 463 North 100 West Cedar City, UT 84721

Attention: Andrew Christensen

Subject:

Engineer's Certification of Compaction Tests

Pond # 3 Decant Pipe Trench

Coal Hollow Project Near Alton, Utah

At your request, we are providing the this letter to certify that the enclosed compaction tests and trench back fill were observed and tested by a representative of GEM Engineering, Inc under the direction of a Utah Licensed Professional Engineer.

All testing and inspections met the requirements of the project plans and specifications and it appeared that the work preformed by the contractor was of good workmanship and quality. Please see the attached test results.

## LIMITATIONS

These services have been performed according to generally accepted engineering practices that exist at this time. No warranty, expressed or implied, is provided.

If you should have any questions concerning this letter or require any additional services, please contact us at your convenience.

We appreciate the opportunity to be of continued service to you. Let us know if you have any questions concerning the data contained within this report.

Sincerely,

Joel A. Myers, P.E.

President of GEM Engineering, Inc.

ENC: Field Density Test Results

## **Field Density Test Summary**

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Client:	37000	3 3							Project	#:		
Alton Co Project Name	al Deve	lopment					Contrac	tor:				
		- Pond 3 decant pipe		Cody								
Weather:	ai i iii c	Tona 5 accane pipe	Equ	Equipment used:								
P/cloudy 75°F				troxler 3411-B								
	Field D	ensity Tests:	For:	tr	ench backf							
Test Date	Test No.	Test Location			Elev.	Laborato Lab Max Dry Density		Field Dry Density	Moisture Content	% Comp	% Reg'd	
7/22/15	1	South end of trench (W)		T	+2.5	112.0	12.0%	106.8	14.3%	95	95	
7/22/15	2	North end of trench (E)		_	+2.5	112.0	12.0%	108.1	16.6%	97	95	
7/22/15	3	West end of trench		-	+5.	112.0	12.0%	106.5	12.8%	95	95	
7/22/15	4	Middle trench			+5.	112.0	12.0%	109.6	12.1%	98	95	
7/22/15	5	East end of trench			+5.	112.0	12.0%	107.4	11.2%	96	95	
Gauce: Density Standard Count:		i i	Moisture Standard Count:			()	( ) Client's representative was advised of the test results.					
Received by:  Representing:				580	Technician(s):  Reviewed by:			Engineering, Inc. Representative Chris Shoop				

Abbreviations: ABC=aggregate base course AC=asphalt concrete BBCF=below bottom of footing BFG=below finish grade BG=below grade BOC=back of curb BCF=bottom of footing BRG=below rough grade BSC=bituminous surface course BSG=below sub grade CL=centerline EL=elevation FG=finished grade FSG=finished sub grade LT=ief: MH=manhole NSG=native sub grade PC=property corner PL=property line PZ=pipe zone RG=rough grade RT=right SG=sub grade SL=sewer line STA=station WL=water line

Compaction test results reflect the tested fill at the location existing on this date. Test locations and elevations are approximate. No other warranty either expressed or implied is provided.